Applicant respectfully requests reconsideration and allowance of all of the claims of the application. The status of the claims is as follows:

- Claims 1, 3-9, 11-22 and 46-54 are pending at the time of the Office Action.
- Claims 3, 11, 20, 49-54 are canceled herein.
- Claims 1, 4-9, 12-15, 17-19, 21, 22, and 46-48 are amended herein.
- Claims 1, 4-9, 12-19, 21, 22, and 46-48 remain pending following the entry of this Response.

Support for the amendments to claims 1, 4-9, 12-15, 17-19, 21, 22 and 46-48 is found in the specification, as originally filed, at least at page 14, lines 1-11 and lines 22-24. The amendments submitted herein do not introduce any new matter.

Claims 1, 3-7, 46, 49 and 52 Recite Statutory Subject Matter Under § 101

Claims 1, 3-7, 46, 49 and 52 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicant respectfully traverses this rejection. Applicant notes that the Office has maintained its position that "computer storage media" may include a "signal or transmission type media" despite the reasoning presented in the Applicant's previous response to office action. (Office Action, pages 2-3). Once again, Applicant respectfully disagrees with the rationale of the Office in the current Office Action for the same reasons as stated in the previous response.

Nevertheless, for the sole purpose of expediting prosecution, Applicant herein amends claims 1, 4-7, and 46 as shown above, and cancels claims 3, 49, and 52. Applicant respectfully submits that these amendments render the § 101 rejection moot.

Cited Documents

The following documents have been applied to reject one or more claims of the Application:

- **Lenoir**: Lenoir et al., U.S. Patent No. 6,671,806
- **Cox:** Cox, et al., "Some general methods for tampering with watermarks*", IEEE, 1998, pp 1-15
- **Tobias**: Tobias et al., International Publication No. WO 01/24530

Claims 1, 4-9, 12-18, 20-22 and 48-52 are Non-Obvious Over Lenoir in View of Cox

Claims 1, 4-9, 12-18, 20-22 and 48-52 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Lenoir in view of Cox. Claims 20 and 49-52 are canceled herein. Applicant respectfully requests reconsideration of the remaining claims in light of the amendments presented herein.

Independent Claim 1

Claim 1, as amended herein, recites (with emphasis added):

intervening with embedded-watermark signal detection by the watermark detector by *varying an audio sample rate or a video frame rate* of the input stream *so that the watermark detector receives the input stream at a variable rate*.

Lenoir describes a watermark detector that outsources intermediate results of an internal watermark detection process to an external memory. (Lenoir, column 1, lines 55-65). However, Lenoir is silent with respect to the intervention of embedded-watermark signal detection by "varying an *audio sample rate* or a *video frame rate* of the

input stream *so that the watermark detector receives the input stream at a variable rate*," as recited in claim 1.

Cox does not remedy the deficiency of Lenoir with respect to the above-recited element of claim 1. Cox describes that watermark detection may be attacked by (1) affine transformation; (2) digital compression; and (3) introduction of noise. (Cox, Section 5: Signal Transformations). However, none of these attack techniques teach or suggest "*varying an audio sample rate or video frame rate* of the input stream *so that the watermark detector receives the input stream at a variable rate*" to intervene with watermark detection, as recited in claim 1.

As described by Cox, "affine transformation" is the shifting of a few pixels or DCT blocks in the image so that the watermark embedded in an image is no longer recognizable by a watermark detector. (Cox, page 7, Section 5.1: Attacks by affine transformation). However, shifting of a few pixels in an image via affine transformation does not teach or suggest varying "an audio sample rate" or "video sample rate", as recited in claim 1. Indeed, there is nothing in Lenoir that would teach or suggest the performance of an affine transformation to change pixels in one image would change the rates at which an input stream is sampled.

Further, "noise addition", as described by Cox, is the addition of "random noise" to an input stream. (Cox, page 8, Section 5.2: Attacks by Noise addition). However, the introduction of "random noise" does not vary the "audio sample rate" or the "video sample rate", as recited in claim 1.

Additionally, "digital compression", as described by Cox, involves the "reduction" of the "bit rate of the content" (e.g., MPEG compression). (Cox, page 8, Section 5.3:

Attacks by Digital Compression). However, the "*reduction*" of a "bit rate" for purpose of digital compression, which may arguably provide a one-time *adjustment* of a "sample rate", does not *vary* an "audio sample rate" or a "video frame rate" of input stream "*so that the watermark detector receives the input stream at a variable rate*", as recited in claim 1. (Emphasis added).

Cox further includes an additional "Intentional Attack" section that includes techniques such as (1) exploiting the presence of a watermark detector device; (2) attacks based on the presence of watermark inserter; (3) attacks by statistical average; and (4) attacks on the copy control mechanism. (Cox, Section 6: Intentional Attacks). However, these techniques are all silent with respect to "varying an *audio sample rate* or a *video frame rate* of the input stream *so that the watermark detector receives the input stream at a variable rate*," as recited in claim 1.

For at least the reasons presented herein, the combination of Lenoir and Cox does not teach or suggest all of the features of claim 1. Accordingly, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 1.

Dependent Claims 4-7

Claims 4-7 ultimately depend from independent claim 1. As discussed above, claim 1 is allowable over the cited documents. Therefore, claims 4-7 are also allowable over the cited documents of record for at least their dependency from an allowable base claim, and also for the additional features that each recites.

Accordingly, Applicant respectfully requests that the Office withdraw the 103 rejection of claims 4-7.

<u>*Independent Claim 8*</u>

Claim 8, as amended herein, recites (with emphasis added):

intervening with watermark detection by the watermark detector by *continuously varying an audio sample rate or a video frame rate of the input stream.*

Applicant respectfully incorporates the reasoning presented above in response to the rejection of claim 1 to the extent that claim 1 and claim 8 recite similar subject matter. Accordingly, Applicant respectfully submits that the combination of Lenoir and Cox does not teach or suggest intervening with watermark detection by the watermark detector by "*continuously varying an audio sample rate or a video frame rate of the input stream,*" as recited in claim 8. Thus, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 8.

<u>*Independent Claim 9*</u>

Claim 9, as amended herein, recites (with emphasis added):

intervening with embedded-watermark signal detection by the watermark detector *by continuously varying an audio sample rate or a video frame rate of the input stream.*

Applicant respectfully incorporates the reasoning presented above in response to the rejection of claim 1 to the extent that claim 1 and claim 9 recite similar subject matter. Accordingly, Applicant respectfully submits that the combination of Lenoir and Cox does not teach or suggest intervening with embedded-watermark signal detection by "*continuously varying an audio sample rate or a video frame rate of the input*

stream," as recited in claim 9. Thus, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 9.

<u>Dependent Claims 12-16</u>

Claims 12-16 ultimately depend from independent claim 9. As discussed above, claim 9 is allowable over the cited documents. Therefore, claims 12-16 are also allowable over the cited documents of record for at least their dependency from an allowable base claim, and also for the additional features that each recites.

Accordingly, Applicant respectfully requests that the Office withdraw the 103 rejection of claims 12-16.

<u>Independent Claim 17</u>

Claim 17, as amended herein, recites (with emphasis added):

an intervention component that intervenes with embedded-watermark signal detection by the watermark detector during a playback of the input stream *by providing a countersignal stream that lacks the embedded-watermark signal to the memory location.*

Lenoir describes a watermark detector that outsources intermediate results of an internal watermark detection process to an external memory. (Lenoir, column 1, lines 55-65). However, Lenoir is silent with respect to the intervention of "embedded-watermark signal detection by "*by providing a countersignal stream that lacks the embedded-watermark signal to the memory location,*" as recited in claim 17.

Cox does not remedy the deficiency of Lenoir with respect to the above-recited element of claim 17. Cox describes that watermark detection may be attacked by (1) affine transformation; (2) digital compression, and (3) introduction of noise. (Cox,

Section 5: Signal Transformations). However, as the title of this section (i.e., "Signal Transformation") suggests, each of the techniques described in Section 5 of Cox relies on the *transformation* of an original input stream, rather than "providing *a countersignal stream that lacks the embedded-watermark signal to the memory location*," as recited in claim 17. (Emphasis added).

Cox further includes an additional "Intentional Attack" section that describes techniques such as (1) exploiting the presence of a watermark detector device; (2) attacks based on the presence of watermark inserter; (3) attacks by statistical average; and (4) attacks on the copy control mechanism. (Cox, Section 6: Intentional Attacks). However, none of these attack techniques teach or suggest "providing *a countersignal stream that lacks the embedded-watermark signal to the memory location*" to intervene with watermark detection.

As described by Cox, "exploiting the presence of a watermark detector device" involves experimentally testing a watermark detector to determine the sensitive of the detector, then modifies the watermarked image (e.g. input stream) so that the watermarked image no longer triggers the watermark detector. (Cox, page 10). However, this technique is still different than providing a "countersignal stream", as recited in claim 17, which "lacks the embedded-watermark signal" in the first place.

Further, "attacks based on the presence of watermark inserter", as described by Cox, is the modification of an input stream to disrupt the change of its watermark status from "one-copy allowed" to "no more copies allowed" by a watermark inserter, thus allowing an input stream without the watermark to be produced. (Cox, page 11, section 6.2). Cox describes "attack by statistical averaging" as the averaging of multiple

watermark images to remove the watermark signal from the images. (Cox, page 11, section 6.3). Finally, "attacks on the copy control mechanism" is the modification of an output of the watermark detector so that a "copy control mechanism" that is downstream from a watermark detector always sees a "no watermark" detection, regardless of the watermark detector output. (Cox, page 12, section 6.4). However, none of these attack techniques teach or suggest intervening with watermark detection by "providing *a countersignal stream that lacks the embedded-watermark signal to the memory location*," as recited in claim 17.

For at least the reasons presented herein, the combination of Lenoir and Cox does not teach or suggest all of the features of claim 17. Accordingly, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 17.

Dependent Claims 18 and 20-22

Claims 18 and 20-22 ultimately depend from independent claim 17. As discussed above, claim 17 is allowable over the cited documents. Therefore, claims 18 and 20-22 are also allowable over the cited documents of record for at least their dependency from an allowable base claim, and also for the additional features that each recites.

Accordingly, Applicant respectfully requests that the Office withdraw the 103 rejection of claims 18 and 20-22.

Independent Claim 48

Claim 48, as amended herein, recites (with emphasis added):

an intervention component that intervenes with embedded-watermark detection by the watermark detector during a playback of the

input stream by *providing a countersignal stream that lacks the embedded-watermark signal to the memory location.*

Applicant respectfully incorporates the reasoning presented above in response to the rejection of claim 17 to the extent that claim 17 and claim 48 recite similar subject matter. Accordingly, Applicant respectfully submits that the combination of Lenoir and Cox does not teach or suggest intervening with embedded-watermark signal detection during a playback of the input stream by "*providing a countersignal stream that lacks the embedded-watermark signal to the memory location,*" as recited in claim 48. Thus, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 48.

Claims 3, 11, 19, 46, 47, 53, and 54 are Non-Obvious Over Lenoir in View of Cox and Further in View of Tobias

Claims 3, 11, 19, 46, 47, 53, and 54 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Lenoir in view of Cox and further in view of Tobias. Claims 3, 11, 53, and 54 are canceled herein. Applicant respectfully requests reconsideration of the remaining claims in light of the amendments presented herein.

Dependent Claim 19

Claim 19 ultimately depends from independent claim 17. As discussed above, claim 17 is allowable over the combination of Lenoir and Cox. Tobias describes generating multiple versions of a digital content that has the same amplitude but different wavelengths. (Tobias, page 2, paragraph 3). However, Tobias fails to remedy the deficiencies of Lenoir and Cox as noted above with regard to independent claim 17.

Therefore, claim 19 is also allowable over the cited documents of record for at least its dependency from an allowable base claim, and also for the additional features that it recites.

Accordingly, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 19.

Independent Claim 46

Claim 46, as amended herein, recites (with emphasis added):

varying an audio sample rate of the input stream continuously to hinder watermark detection by the watermark detector.

Applicant respectfully incorporates the reasoning presented above in response to the rejection of claim 1 to the extent that claim 1 and claim 46 recite similar subject matter. Accordingly, Applicant respectfully submits that the combination of Lenoir and Cox does not teach or suggest the above-recited element of 46.

Moreover, Tobias describes generating multiple versions of a digital content that has the same amplitude but different wavelengths. (Tobias, page 2, paragraph 3). However, Tobias fails to remedy the deficiencies of Lenoir and Cox as noted above with regard to independent claim 46. Thus, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 46

Independent Claim 47

Claim 47, as amended herein, recites (with emphasis added):

varying a video frame rate of the input stream continuously to hinder embedded-watermark signal detection by the dynamic detector.

Applicant respectfully incorporates the reasoning presented above in response to the rejection of claim 1 to the extent that claim 1 and claim 47 recite similar subject matter. Accordingly, Applicant respectfully submits that the combination of Lenoir and Cox does not teach or suggest the above-recited element of 47.

Moreover, Tobias describes generating multiple versions of a digital content that has the same amplitude but different wavelengths. (Tobias, page 2, paragraph 3). However, Tobias fails to remedy the deficiencies of Lenoir and Cox as noted above with regard to independent claim 47. Thus, Applicant respectfully requests that the Office withdraw the 103 rejection of claim 47.

Conclusion

For at least the foregoing reasons, all pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that would prevent allowance of this application, **Applicant requests that the Examiner contact the undersigned representative before issuing a subsequent Action.**

Respectfully Submitted,

Lee & Hayes, PLLC
Representative for Applicant

/Elliott Y. Chen, Reg. No. 58,293/   Dated: March 8, 2011

Elliott Y. Chen
(elliott@leehayes.com; 206-876-6001)
Registration No. 58293

Brett J. Schlameus
(brett@leehayes.com; 206-876-6022)
Registration No. 60827